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## **Comments to the National Organic Standards Board April 10, 2006**

### **Re: Sunset Review of Crop Materials**

#### General comments:

Pennsylvania Certified Organic appreciates the extensive review performed by the NOSB in a relatively short time in order to accomplish the required sunset review of the initial National List materials. We urge the Board to take the time to evaluate the process to determine how to improve this required review in future rounds of review. In particular, the public only had 30 days to file comments on the entire list last summer, and the NOSB has had less than one year to review all the outstanding materials. This does not permit careful review or needed research on a number of complex issues: a longer timeline is essential if the reviews are to be meaningful. PCO urges NOSB and NOP to start now on the required reviews for the materials that were added to the National List in 2003, and post a notice for sunset comments as soon as possible.

The Board also needs to seriously reconsider its stated policy of refusing to make any changes in material annotations during the sunset review. The Board has called for a number of technical changes to annotations since the rules were published in Dec. of 2000, and the sunset review would seem to be an ideal chance to incorporate these needed corrections. For instance, in the case of chlorine, there is a widely acknowledged discrepancy between the original NOSB recommendation and the language of the 2000 rule. The NOSB recommended a clarification in the annotation for all three forms in May 2003. Although these changes were never addressed by NOP, it is logical that these corrections be made in the context of regular sunset review.

**1. Aquatic plant extracts:** The new TAP review (Jan. 2006) commissioned by the board on this topic states that alkali extraction does result in a synthetic change to the natural kelp or seaweed product. It also notes that various other techniques exist to process aquatic plant products, such as drying, freezing, thawing and grinding to produce liquid or dried aquatic plant products. The review states that these techniques provide nonsynthetic alternatives to synthetically extracted aquatic plants (OFPA criteria, 6517(c)(1)(A)(ii)). The TAP review also cites a recent review (Henry, 2005) that found that aquatic plant extracts made with or without alkali treatment, both have value as crop treatments. The TAP review further notes that aquatic plant products have limited and variable effects as fertilizers. “For the most part, none of the micronutrient levels in kelp extracts are high enough to correct a deficiency, but they are used as a “tonic” providing a broad array of micronutrients and other trace elements in organic farming (Hall and Sullivan, 2001)... However, a study in 1995 found no beneficial effects to tomatoes of kelp-derived foliar sprays when the plants were inadvertently subjected to stress early in growth (Tourte, 1997).”

There is a wide range of aquatic extract products available to organic farmers, with a range of guaranteed analysis of potassium from 1% to those containing over 20% as K<sub>2</sub>O. Clearly some of the reported variations in effect may be due to variable nutrient content due to the differing extracting and processing techniques. Henry (2005) suggests that more research is needed to determine whether nutrients and growth regulators found in aquatic plant products have practical value when applied at levels advocated by manufacturers, along with a comparison of the different types of extracting techniques.

Despite the absence of this type of data, the Crops committee has recommended renewal of the current listing and annotations, claiming that alkali extracted aquatic plants are “somewhat unique”, in comparison to non-alkali extracted products. The only data cited are label instructions, not included in the report. Reportedly, a product that was alkali extracted is labeled as beneficial during bloom, while the natural product is not. It is difficult to compare the label instructions without knowing the specific products, as they could vary widely in pH, levels of nutrients, and type of extraction. Beneficial effects during bloom could be due to higher levels of soluble synthetic potassium.

The current annotation states “Extraction process is limited to the use of potassium hydroxide or sodium hydroxide, solvent amount used is limited to the amount necessary for extraction.” Given the fact that some manufacturers believe a rate resulting in 20% K is necessary for extraction, and that others use none or amounts resulting in a final analysis of 1% K, this annotation can be interpreted widely by certification agents.

Another problem is that NOP has issued a letter of interpretation to one aquatic plant extract manufacturer stating that phosphoric acid is permitted for use in aquatic plant products, despite the fact that it is not included in the annotation or permitted on the National List for this use.

“We have determined that the substance for the specific petitioned use, does not have to be petitioned because its use as a pH adjuster in aquatic plant extracts is currently not prohibited [in the annotation]...The only restrictions specified are that 1) the extraction process is limited to the use of potassium hydroxide or sodium hydroxide, and 2) the solvent amount used is limited to the amount necessary for extraction. No other restrictions are identified. Therefore, aquatic plant extracts, as long as manufacture consistent (sic) with the restrictions specified in 205.601(j)(1) are allowed as synthetic substances for use in organic crop production, including the use of phosphoric acid to adjust the pH of the aquatic plant extracts.”<sup>1</sup>

Phosphoric acid was never considered by the NOSB or recommended for use in aquatic plant products. It was only considered for use in limited amounts to stabilize liquid fish products, limited to the amount needed to reach a pH of 3.5. An unrestricted allowance for phosphoric acid and potassium hydroxide in extracting and stabilizing aquatic plant products can result in products that are basically synthetic fertilizers being marketed as natural and “organic.”

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<sup>1</sup> NOP to Acadian Seaplants Ltd Feb. 6, 2004.  
<http://www.ams.usda.gov/nop/NationalList/DavidHiltzPhosphoricAcid.pdf>

Synthetic sources of phosphorus and potassium used as fertilizer are prohibited by OFPA at 6508(b). Although the manufacturer claims that the dilution rates advised on the label will limit the actual fertilizer rates, these products are commonly used in hydroponic systems, as foliar fertilizer, and in greenhouses where the rate of application could result in a significant source of synthetic potassium and potentially phosphorous.

- Aquatic plant products, (alkali extracted), should be **considered for removal from the National List**.

Petitioners who believe synthetic extractants or stabilizers are necessary can then provide data to support that use. Natural forms of aquatic plant products would still be available for use, without appearing on the National List.

If the NOSB decides to renew the listing for aquatic plant products, PCO asks for a clarification that sodium and potassium hydroxide are the **only** synthetic substances approved for use in extracting or stabilizing the product. Otherwise, the NOP interpretation allows an unlimited amount of synthetic fertilizer to be used in these products. The NOP has consistently stated that any substance included as a category or specific item on the National List includes all components used to manufacture that generic substance, unless specifically restricted.<sup>2</sup> NOSB has not reviewed or recommended the use of phosphoric acid or other synthetics in aquatic plant extract production, and needs to clarify this point to NOP and to the public.

## 2. Hydrated lime for crop disease control

In this case, the crops committee has recommended removing hydrated lime from the list, despite many comments in favor of keeping hydrated lime on the list. It was originally recommended by NOSB in April 1995 as “Bordeaux mixes (copper sulfate and hydrated lime).” The NOP chose to list the two components separately in Dec. 2000, but did not list Bordeaux mix, which is a somewhat archaic term now for the mixture formed by copper sulfate and calcium hydroxide. The crops committee has not recommended removal of lime-sulfur or of copper products. Hydrated lime is still used in on-farm formulations of Bordeaux mix and as an ingredient in other fungicide formulations used in tree fruit and grape production. Organic farmers face serious limitations for approved materials used in plant disease control. The removal of one of very few limited options should not be made without further consideration and input from organic fruit growers.

The concern of the crop committee that there is no OFPA category for this use is unfounded, as OFPA 6517(c)(1)(B)(i) provides for substances “used in production and contains an active synthetic ingredient in the following categories: copper and sulfur compounds, ....minerals.” Calcium hydroxide is derived from the mineral, calcium carbonate by the ancient process of burning at high temperatures. Hydrated lime is justified in OFPA for use in sulfur compounds

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<sup>2</sup> <http://www.ams.usda.gov/nop/Q&A.html> National List of Allowed and Prohibited Substances

Q: Do nonagricultural substances included on the National List of Allowed and Prohibited Substances have to be produced without the use of volatile synthetic solvents? ...

(lime sulfur), and for use in Bordeaux mix (a copper compound). It makes sense to continue the listing as a synthetic form of a mineral, used for disease control.

- **Retain hydrated lime on the National List.**

### **3. Chlorine used in crop production**

The crops committee report mentions several times the “NOP standard” for chlorine as listed in the regulation. However, as the NOSB previously noted in their recommendation from May 2003, the NOP standard is not clear.

“The National List contains annotations for the use of chlorine compounds which do not accurately convey the annotations recommended by the NOSB. As a result, the Questions and Answers posted on the NOP website focus on measuring chlorine levels at the effluent or discharge site of the facility, rather than at the point where the chlorine solution contacts organic food. This has led to confusion among processors, certifying agents, and inspectors, and has led to inconsistent application of the NOP rule. The NOSB Processing Committee recommends that the annotations be corrected to accurately reflect the original NOSB recommendation, that the Q & A's be re-phrased to provide accurate and consistent guidance, and that the review of chlorine should be prioritized in the re-review process in light of new information about the use of chlorine compounds.”

The TAP review and the committee reports have not considered this 2003 recommendation. This is unfortunate as NOSB previously offered a detailed recommendation and justification, specifically to:

“Change the annotation of §205.601(a)(2) to read: Chlorine materials - Except, That, residual chlorine levels in the water in direct crop or food contact and in flush water from cleaning irrigation systems that is applied to crops or fields shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act. “

Without this clarification, the “NOP standard” for chlorine use is not clear at all. The only current NOP interpretation is still posted on the question and answer section of the website and states that only the “effluent” must meet this standard, and does not provide any restriction for chlorine used in direct food or crop contact. In addition, the recent technical review did not consider use of chlorine to treat organic sprout seeds. These are commonly treated at extremely high rates of 20,000 ppm Cl, due to a FDA guidance policy on food safety. The NOSB has received comments from an organic sprout producer who has succeeded at growing organic sprouts in compliance with FDA guidance, without this high level of pesticide use.<sup>3</sup> Organic sprouts need to be produced from organic seeds, and treatment with this level of a residual pesticide is clearly in conflict with organic principles.

The crop committee states that they “agree with the comments that more specific guidelines for the use of chlorine materials in organic crop applications are needed, but the committee also acknowledges that such a recommendation to add further addenda to the regulation is not the purview of this sunset document.” Given that NOSB has previously recommended a change in the annotation, and that a technical review was commissioned, it is hard to understand why this needed change is not being considered for the sunset review.

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<sup>3</sup> <http://www.ams.usda.gov/nop/PublicComments/Sunset/Crops/SandersonB.pdf>

- The annotation for chlorine should be changed to state:  
**Chlorine materials - Except, That, residual chlorine levels in the water in direct crop or food contact and in flush water from cleaning irrigation systems that is applied to crops or fields shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act.**

Respectfully submitted,

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